

Abstract of the Disclosure

A composition for energy-controlled generation and release of at least one gas, which includes an energy-activated catalyst capable of being activated by electromagnetic energy, and a solid or a liquid containing anions capable of being oxidized by the activated catalyst or reacted with species generated during activation of the catalyst to generate at least one gas. The composition, when exposed to electromagnetic energy, is capable of generating and releasing the gas after activation of the catalyst and oxidation or reaction of the anions.